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PROJEKTMAN – SOFTWARE TOOL FOR PROJECT PLANNING

Contributed paper

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SUMMARY

1.   The rationalization of work in statistical offices often requires the creation of specific software tools for the support of individual activities of statisticians. In this area, one of the fields of long-term development in the Czech Statistical Office (CSO) is the creation of unified tools for the preparation of technical projects of statistical surveys.

2.   This paper describes one of these instruments: ProjektMan. It is a software which creates a framework and sets up unified rules for controlling statistical survey preparation. ProjektMan prepares the standard technological environment for the design and implementation of statistical surveys. Its users are all staff who participate in the preparation and implementation of statistical surveys, i.e., subject-matter statisticians, survey designers, questionnaire designers, programmers and processing staff.

3.   The technical preparation of surveys covers a sequence of mutually related activities. It has four main stages: (1) technical preparation of the statistical questionnaire, (2) creation of the technical project, (3) programme development and (4) testing and tuning of individual programmes and the system as a whole.

4.   Individual modules of ProjektMan allow the user to carry out the following functions in an interactive regime:
    a) design of the statistical questionnaire,
    b) creation and maintenance of technical projects,
    c) generation of application programmes or of their parts,
    d) generation of electronic questionnaire,
    e) creation of the processing timetables,
    f) scheduling of the programme of statistical surveys in the current year.

Design of the statistical questionnaire

5.   The statistical questionnaire design module is based on a hierarchical
structure of the statistical questionnaire. The questionnaire is comprised of
individual sections (basic building block) defined in advance. The ProjektMan module
for questionnaire design represents a special graphic editor, which enables an easy
creation of the graphic form of the statistical sections including a description of
the necessary checking procedures, explanatory notes and corresponding technical
attributes of variables within the sections.

6.   An inseparable part of the questionnaire forms is a definition of links among
individual sections of the questionnaire, explanatory notes to the form, definition
of the set of surveyed units and corresponding technical attributes. The complete
graphical appearance of the created questionnaire is stored in the ProjektMan
database. The user can create three types of outputs: (i) computer printout, (ii)
matrix for printing the questionnaire in the printing office and (iii) output to the
technical project.

Creation of technical projects

7.   Technical projects (TP) are the core of the ProjektMan system. In the course
of its creation, the TP module obtains information from other modules to specify
concrete survey project (definition of printed and electronic outputs, descriptions
of check procedures, timetable of programme development and sample timetable of
processing).

8.   In general, the technical project preparation module represents a special text
and graphic editor. Part of the editor is a pre-defined outline of the technical
project. The user can define his/her own layout of the technical project, but in
this case not all system functions can be utilized. In addition, the user can create
standardized texts, which then could be copied into a new technical project. This
requires unification of documentation and also on the processing technologies.

9.   The created technical project is stored in the database of technical projects.
This database is accessible via the network for all users who are taking part in the
project preparation or implementation. The system makes it possible to immediately
reflect changes in technical projects and always provides the users with an updated
version of the project.

Generation of application programmes

10.   Technical projects represent an exhaustive description of the content of the
statistical surveys, their processing requirements and presentation of results. An
overwhelming part is written in free text format. Certain parts also include a
formalized description according to the prescribed syntax and serve as a source for
other ProjectMan functions.

11.   Based on the specifications in the technical project, it is possible to generate
automatically application programmes for:

        (a) the acquisition and interactive checking procedures of entry data,
        (b) the creation (generation) of the set of survey units,
        (c) batch processed checking procedures,
        (d) storing data in the database under RDMS Oracle,
        (e) the electronic questionnaire.

Generation of electronic questionnaire

12.   Programme generation for the electronic questionnaire (EQ) is one of the most
important functions of the ProjektMan. This function generates necessary programmes
for the acquisition and checking of entry data. This application, with some

additional tools, is made available to the respondent of the statistical survey as an alternative to filling in the statistical questionnaire on paper.

13.   EQ represents a set of programmes which the respondent can install on his/her PC. The software provides the user with a complete picture of the statistical questionnaire including content-based explanatory notes and necessary code-lists. The user can then fill in the questionnaire on the PC to create necessary output (printout of the questionnaire, output file on diskette, output file for mailing by e-mail) and send it back to the CSO for processing. Part of the provided software comprises detailed instructions for the work with this special application software.

Creation of the processing timetables

14.   Part of the description of each statistical survey comprises a prototype processing timetable for one period (month, quarter or year). This information is used to generate the processing timetable of statistical surveys.

Planning of the statistical survey programme

15.   This module covers a relatively independent part of ProjektMan. It is used for designing the programme of statistical surveys for the current (calendar) year. The gradually completed list of statistical surveys is then used for: (i) checking for survey programme completeness, (ii) generation of directories and subdirectories for storing descriptions of individual objects within ProjektMan, and (iii) for generation of the list and description of statistical surveys for presentation in the Collection of Laws (an obligation of the Czech Statistical Office according to the Act on Statistical Service).